

Abstract

An alternate polymer extrusion method and system reduces “drool” effects that detract from precise control over the content of two or more materials in an extrudate along its length. In the system, two or more extruders direct melt to two or more gear pumps. Control of the speed of the gear pumps controls the amount of each material emergent from the pumps, proceeding to a convergence in the paths from the pumps and thence to a die. Melt in each path between each pump and the convergence tends to expand and drool into the convergence as its associated pump is slowed and stopped. To prevent this, a constriction in each path just upstream of the convergence greatly reduces drool past that point by requiring a much greater pressure to force the melt past the constriction. The increased pressure required increases compression and expansion of the melt between the pump and the construction as a pump starts or increases in speed, on one hand, and stop or decreases in speed, on the other hand. Compensatory pump speed changes are made to counter this effect.

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